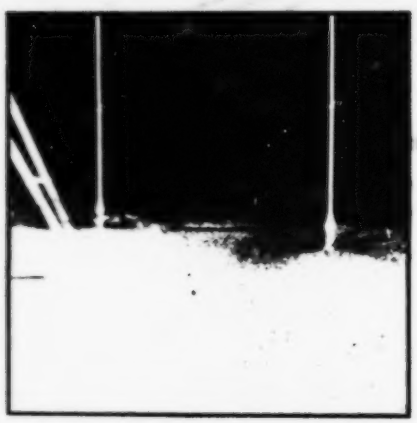
ALBERTA
WATER COUNCIL



Review of Implementation Progress of *Water for Life*, 2004/2005

October 2005

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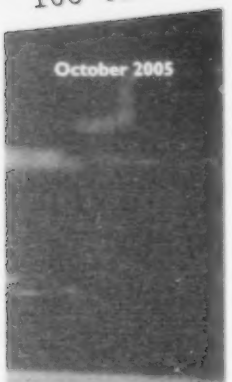


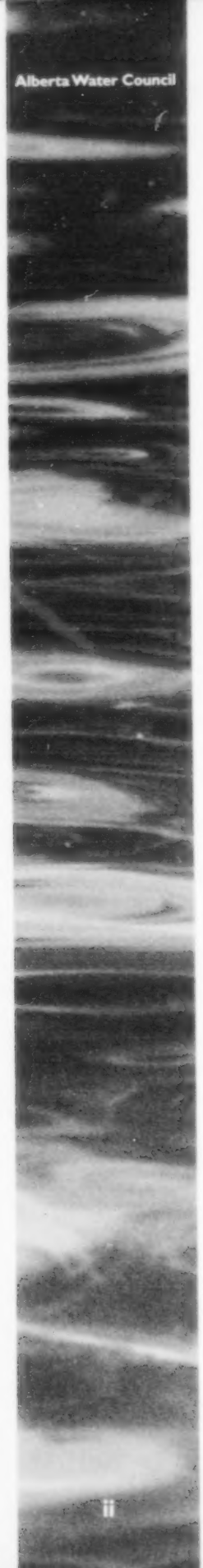
Executive Summary

The Alberta Water Council is impressed and excited by the potential of the ***Water for Life*** strategy and by the commitment the Government of Alberta has shown to it during the first year of implementation. This is a very innovative and comprehensive approach to water management. Progress has occurred under all elements of the strategy.

Our report emphasizes that this is a balanced strategy. The three strategic outcomes are related, and each outcome can support the successful achievement of the others. It is an evolving, long-term strategy. The efforts of the early years are largely intended to provide a sound foundation for future strategic actions.

Highlights:

- In assessing the three strategic Outcomes, we are of the opinion that:
  - There has been significant progress towards developing a comprehensive drinking water protection strategy. Municipal systems have received a particular focus. We recommend a review of the status of private systems in the coming year. We also recommend the definition of future laboratory requirements; a review of regional planning requirements and an assessment of the cooperation required between all levels of government having responsibility for the delivery and ownership of drinking water programs.
  - The Council strongly endorses the Province's objective to ensure healthy aquatic environments are maintained by specific protection measures contained in individual watershed management plans. Critical areas must be identified by 2007. Initiatives in the first year were understandably focused primarily on assessment and research. It is now time to become more specific. The setting and enforcement of Instream Flow Needs and the definition of a Wetlands Policy should be short-term priorities. Research priorities should be set. These should all be areas of major budget support.
  - There has only been preliminary progress made in meeting the objective to manage water more effectively in order to support economic development. This is a complex outcome involving many stakeholders across the Province. The assessment and implementation of water management tools and techniques needs to be accelerated. The Province should aggressively plan for future shortages.
- The actions taken to achieve the strategic Outcomes will be supported by three renewed Directions in Alberta water management practices. We have identified fundamental components under each Direction which we recommend be pursued over the next year. We acknowledge that planning is already underway in each of these areas and will provide an effective base for the priorities we are suggesting. The priorities are:
  - Knowledge and Research: a knowledge base should be developed in key areas in order to support effective decision-making. Examples to be considered under the Provincial Water Research Strategy may include groundwater mapping, wetlands inventory, an analysis of water use information, and an assessment of instream flow needs. In addition, a public education and awareness strategy should be defined to raise awareness of water management principles and issues.
  - Partnerships: define the process and timelines for establishing Watershed Planning and Advisory Councils



(WPACs) in all applicable watersheds in Alberta. The Province believes watershed planning is a cornerstone of ***Water for Life***. The evolution to WPAC-led planning is a critical element of the strategy.

- Water Conservation: the outline of a water conservation plan for the Province should be defined as a priority. The potential contribution of conservation, productivity in the use of water by various sectors, and efficiency in the management of available supplies should be clearly understood.

In summary, year one has been a strong start under the ***Water for Life*** strategy. It is important to lay the foundations of the strategy quickly. The essence of future success will lie in the choice of specific strategic commitments and initiatives that are based upon them.

Background

Water for Life: Alberta's Strategy for Sustainability represents a comprehensive, long-term plan for the achievement of three strategic outcomes in water management:

- A safe, secure supply of drinking water for future generations.
- The establishment, maintenance and protection of healthy aquatic ecosystems.
- The availability of reliable, quality water supplies for a sustainable economy.

The actions taken to achieve these strategic goals will revolve around three renewed directions in Alberta water management practices:

- Knowledge and research: initiatives will be based on sound science and facts.
- Partnerships: a recognition that most solutions to water issues arise from the effective management of individual watersheds. These solutions are best defined through collaboration with specific stakeholders and the public. Input will be sought on a provincial, regional and community basis.
- Conservation: Usage and storage practices must be improved through conservation efforts, and an increased productivity/efficiency in water use and management.

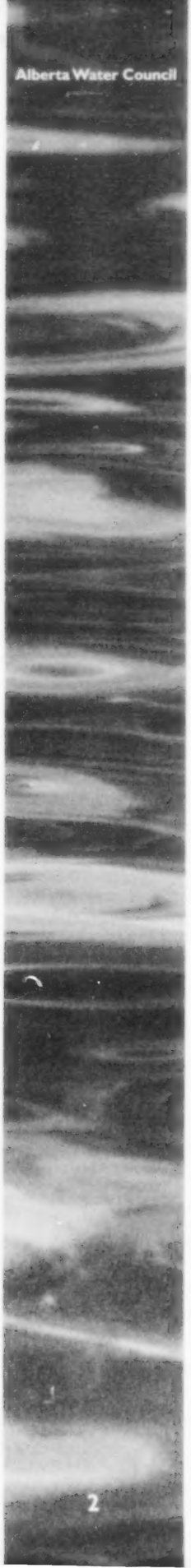
Introduction

The Alberta Water Council has a responsibility to steward the successful implementation of the ***Water for Life*** strategy. An annual review of implementation progress and effectiveness will be issued by the Council.

This first review is general and conceptual in nature. Our objective is to provide a perspective on the purpose and scope of the ***Water for Life*** strategy, in addition to reviewing progress following the first year of implementation. Our reports will become more detailed in future years as specific initiatives develop.

Albertans should be aware that:

- This is a balanced strategy. Each of the Outcomes depends on the successful achievement of others. Each of the Directions must drive all three outcomes. Isolated successes are not sufficient.
- This is a strategy full of exciting opportunities and change:
  - It represents a ***policy*** commitment by the Government of Alberta to provide innovative solutions to water management issues.
  - It recognizes the importance of creating a conservation/productivity ethic in the future planning of our water resource.
  - It encourages watershed specific solutions.
  - It invites input from stakeholders at all levels of involvement with water issues.
  - This is a long-term strategy. It is evolving. It is well structured for comprehensive solutions. Efforts in the early years will form the foundation for specific strategic commitments and initiatives.



In this review, each of the Outcomes and Directions has been assessed under the following format:

- The Government's stated commitment and objectives, both short and long term, have been summarized for these strategic elements. This creates a context for the current and future planning under each of them.
- We have, as part of this Alberta Water Council review, emphasized the interdependence between the Outcomes and Directions. Their close relationships underlie the scope and potential impacts of the Strategy.
- A review statement, by this Council, comments on the progress and effectiveness of the implementation at the conclusion of the first year.
- Guidelines for future success, from the Alberta Water Council, are offered for consideration by the Government.

Our comments are in no way intended to be interpreted as criticism of any of the efforts undertaken to date. They are intended to supplement them and provide constructive input to the achievement of an ambitious strategy.

Alberta has an opportunity to transform its water management challenges into world-class solutions. The strategy envisions policies and resources far beyond ad hoc decisions and incremental change. This is the time for stakeholders, whether as regulators, user groups, advocates or individuals, to provide input to evolving strategies. Success will depend on focus, innovation, balanced social values and a growing appreciation of the value of water as a scarce resource. The Alberta Water Council views *Water for Life* as a shared responsibility and a high priority for the Province and its citizens.

Outcomes

Safe Secure Drinking Water Supply

Commitment:

Albertans will be assured that their drinking water is safe.

Relationship Factors:

- Reliance on healthy aquatic ecosystems for acceptable quality and quantity of source supply.
- Closely aligned with sustainable economic development. Safe and adequate supplies of drinking water are critical to support population growth and underlying economic expansion.
- Research and data required for such areas as evolving standards and technology; public access to information; and adequacy of groundwater supplies for private systems.
- Partnerships facilitate watershed planning as a means of understanding many of the supply and quality issues affecting the ability to meet future demands.
- Conservation encourages treated water supplies to be used wisely. Innovative solutions are required to reduce consumption demands.

Short Term Objective:

- Develop a comprehensive protection strategy by 2007.

Long Term Objective:

- Long term outcomes evolve into a comprehensive public education program and the ability to provide adequate infrastructure for future supply requirements and increasingly complex safety standards.

Review to Date:

- Significant progress and attention in this area during year one.
- A comprehensive review of municipal water treatment plants has been undertaken. This is a very positive and impressive initial step in addressing the goals and outcomes of the strategy. We look forward to the public release of the report in the near future.
- Historically, Alberta has been a leader in the development of a high-quality training and certification program for operators of water systems. The quality of operators in the Province remains high. However, resources allocated to certification and training programs have been reduced over the past several years. Therefore the ongoing training and development of operators should be addressed in the context of Provincial and regional strategies for the administration and delivery of program services relating to water systems.

Future Success Factors:

- Although the majority of Albertans are served by municipal potable water systems, there is a significant population served by private or other forms of communal systems. There is a need for developing a better understanding of the status of these supplies.
- Criteria for funding programs "to support the development of regional water systems" need to be established. The current formulas do not necessarily encourage regionalization.
- Expansion of laboratory capabilities and capacities is required to support the goals and outcomes of ***Water for Life***.
- There may be benefits to developing better/closer working relationships among various Government entities within Alberta. Provincial Departments, Regional Health Authorities and Municipal Governments, for example all have a role in ensuring safe potable water supplies.
- It is also important to engage, in the ***Water for Life*** strategy, all other levels of government having a role in the delivery and ownership of drinking water programs. Various Federal Government Departments have programs that may influence this outcome. Governing bodies within First Nations and Metis communities, as important stakeholders, should be involved.

Healthy Aquatic Ecosystems

Commitment:

Albertans will be assured the Province's ecosystems are maintained and protected.

Relationship Factors:

- Healthy watersheds improve the supply and quality of surface and groundwater for drinking water systems.
- Sustainable economic development is closely aligned with environmental standards:
  - Defining and maintaining adequate levels of instream flow will impact future allocation and water management policies.
  - Healthy watersheds support a range of important economic issues such as: quality of life, recreation, and wildlife habitat.
  - Reallocation under water allocation transfers, and accompanying conservation holdbacks may assist in meeting the needs of aquatic ecosystems.

- Water conservation/productivity initiatives will have an influence on the amount of water available to support healthy ecosystems in the future.
- Research and data are critical to identifying and understanding the needs of the aquatic environment. Public awareness and education will reinforce an understanding of the importance of healthy aquatic ecosystems.
- Partnerships facilitate comprehensive watershed planning which has a huge potential impact on the ability to manage and/or preserve aquatic ecosystems. Government policies and regulations are required to support effective planning and protection.

Short Term Objective:

- Ensure protection in critical areas is underway by 2007. This recognizes priorities for action must be set between watersheds.

Long Term Objective:

- Protection will be extended to all watersheds under management objectives established within watershed management plans. These measures will ultimately create the potential for sustainable ecosystems in the future.

Review to Date:

- Initiatives in first year focused primarily on an inventory of aquatic ecosystem data and aquatic ecosystem research initiatives/programs. Scoping for an initial assessment of aquatic ecosystem health in Alberta was also completed.
- Research needs are extensive. Their identification, prioritization and the definition of processes to support them are all in preliminary stages. Completing the research required for setting sustainable environmental standards is a major task.
- It is important to accelerate the development of instream flow needs (IFN) tools, IFN assessments, and wetlands inventory in the next year. Priorities, timelines and committed funding are all required.
- A Wetland Policy Project Team was established by the Alberta Water Council, with a mandate to develop a comprehensive provincial wetland policy. The Alberta Water Council terms of reference include an objective to establish this policy by the end of 2006, ahead of the original ***Water for Life*** timetable. Given this high priority, there is a need to ensure an underlying focus on wetlands research and that associated programs are also being maintained and funded over the next year.
- Encouraged by effectiveness of the South Saskatchewan Basin plan recommendations, which led to implementation of an allocation moratorium on St. Mary/Belly/Waterton River basins and a guideline for maximum water conservation holdbacks on licence transfers in the basin.

Future Success Factors:

- Research priorities should be set.
- As research becomes available, there is a need to identify appropriate environmental standards and to coordinate their implementation through cross ministry cooperation and stakeholder involvement.
- Should be an area of major budget support from the Provincial government.
- Ensure that wetlands policy is established within the Alberta Water Council timeline.
- Maintain focus on watershed management plans. Setting Water Conservation Objectives and other planning measures within these plans is required to balance future economic growth with environmental protection.

- Recognize that it is important to implement environmental standards in basins, which are not yet fully allocated. This sets a base for protection from which to assess future demands.
- Continue and enhance consultation with Watershed Planning and Advisory Councils; Watershed Stewardship Groups and other interest groups as appropriate for input into individual watershed issues. The Government of Alberta should review and implement report findings and recommendations from Watershed Planning and Advisory Council watershed management planning initiatives.
- The Government of Alberta needs to strengthen its support for Watershed Planning and Advisory Councils and Watershed Stewardship Groups, especially staff time to build capacity of these organizations.

Reliable, Quality Supplies for a Sustainable Economy

Commitment:

Albertans will be assured their water is managed effectively to support economic development.

Relationship Factors:

- Economic growth places pressure on supplies. Economic uses of water need to be stimulated and balanced with ecological and social needs, i.e. drinking water supplies and environmental standards.
- Research in this area revolves around understanding the issues, best practices and regulations in other jurisdictions.
- Conservation is closely aligned. Efficient use of supply will help support economic activity.
- The partnership approach will encourage industry working groups to make a significant contribution to planning. Watershed management plans are an appropriate method for defining economic plans and objectives in balance with other strategic outcomes.

Short Term Objectives:

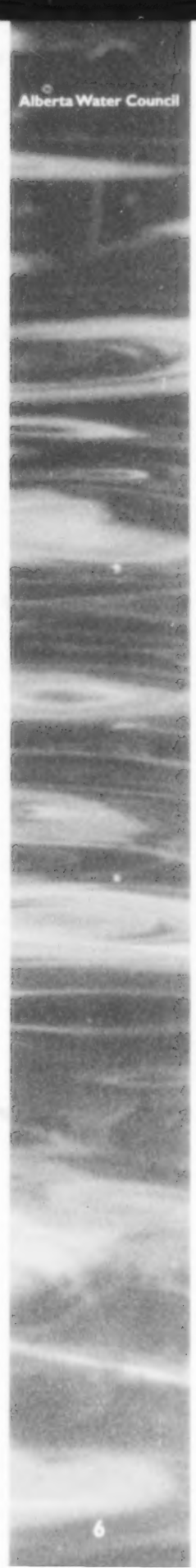
- Albertans understand the value of water to the economy and quality of life.
- Implement a broad range of water management tools and techniques by 2007. Purpose is to provide methods and incentives to encourage efficient and most beneficial economic activities.

Long Term Objectives:

- The overall efficiency and productivity of water use in Alberta to be improved by 30 per cent from 2005 levels.
- Integrate economic development objectives into watershed plans. Ensure water allocation transfer methods and infrastructure are supporting the changing and growing requirements for water.

Review to Date:

- Very preliminary progress in this area. Many of the identified initiatives were either maintaining the status quo or setting future priorities.
- Encouraged by the recognition that systems and policies need to be in place to track the scope and impact of transfers, monitor actual withdrawals under licences and maintain consistent administrative practices. Water needs to be administered with the same degree of detail as other natural resources.
- Efforts to date fall short of supporting the objective: implementing a broad range of water management tools and techniques by 2007.



Key Directions

Knowledge and Research

Commitment:

Albertans will have the knowledge needed to achieve safe drinking water, efficient water use, and healthy watersheds.

Relationship Factors:

- This direction is the foundation for efforts in each of the other areas.
- Recognition that sound science and a comprehensive data base are the basis of effective decision making and programs.

Short Term Objective:

- Establish comprehensive water research and public awareness strategies by 2007.

Long Term Objective:

- The research and awareness programs will provide information that is relevant and readily available to support strategic initiatives under ***Water for Life*** (by 2010) and sustain effective decision making in the future.

Review to Date:

- Research and knowledge has been a key element of the implementation of ***Water for Life*** in year one. The various projects and information systems underscore the complexity and scope of the strategic issues to be addressed.
- There has been significant progress, in the first year, in identifying needs.
- Going forward, there is a recognized need for prioritizing and coordinating efforts and funding. The Alberta Water Council acknowledges the Alberta Science and Research Authority's key role in researching and developing a provincial water research strategy. This first step is critical. A Steering Committee has been established for the purpose of delivering a draft strategy by September 2005.

Future Success Factors:

- Revisit policies on instream flow objectives in order to set base standards on the availability of water for sustaining the economy.
- The establishment and support of Watershed Planning and Advisory Councils across the Province is a key element for assessing and achieving this outcome.
- Involve industry, Alberta Water Council and Watershed Planning and Advisory Councils in the planning of economic instruments.
- Ensure sustainable economic development is a key element of watershed management plans. Development must be addressed in balance with the other outcomes.
- Effective registry systems for licences and transfers. Effective regulatory mechanism for transfers and assignments.
- Aggressively plan for future shortages of supply. Storage and water allocation transfers may be inevitable strategic objectives. These solutions should fit within overall watershed planning objectives.

- The recent floods in Central and Southern Alberta emphasized the existing effectiveness of Alberta's flow forecasting and monitoring capabilities. Governments, and their collaborators in the private sector, are to be congratulated on their ability to provide effective emergency response warnings and actions, based on this knowledge.

Future Success Factors:

- Place an immediate priority on and provide funding for a Provincial Water Research Plan. Individual research priorities, funding requirements and coordination measures should be established by this plan.
- There is a need to recognize the difference between research and knowledge. Research is needed to identify the things we don't know. Knowledge is the compilation and organization of what we do know. Both should contribute to the successful achievement of the ***Water for Life*** outcomes.
- Knowledge and research should both be a long term funding priority.
- Groundwater is an important component of water supply but knowledge in Alberta is limited. Groundwater surveys are needed to improve our understanding of aquifer systems, including their interaction with surface water and ecosystems. Therefore, groundwater surveys for each watershed should become a funding and operational priority. In order to meet this long-term target of ***Water for Life***, there is a need to initiate action.
- Accessible data, information and knowledge systems will empower stakeholders at all levels to become informed, active participants in water management issues.

Partnerships for Watershed Management and Stewardship

Commitment:

Citizens and stakeholders will have opportunities to actively participate in watershed management on a provincial, regional and community basis.

Relationship Factors:

- The involvement of governments, industry, community groups and citizens as active participants in water management will help create a balanced program for each of the strategic outcomes and directions. The focus on involvement at the watershed level will create solutions appropriate to the diverse issues that exist across the Province.

Short Term Objective:

- Establish provincial partnerships for watershed management and stewardship.

Long Term Objective:

- Extend the partnerships to the community level. Involve all groups in the establishment of watershed management plans for all watersheds in the Province. The vision is that water management in the Province will be led by input from various watershed stakeholders.

Review to Date:

- The government has shown a strong commitment to partnerships. Significant effort and progress in year one through the organization and establishment of the Alberta Water Council and Watershed Planning and Advisory Councils in three watersheds. Plans and funding will create additional Watershed Planning and Advisory Councils in other watersheds across the Province.
- Alberta Environment is facilitating progress in the expansion of the remaining Watershed Planning and Advisory Councils.

and Watershed Stewardship Groups. The encouragement of these groups should be accelerated. There is an immediate need to formalize and make available a consistent program for the formation of these stakeholder groups.

- Establishment of Watershed Planning and Advisory Councils in the Athabasca basin, given the scope of economic development planned for the area, should be an immediate priority.
- The South Saskatchewan River Basin Plan is indicative of the effectiveness of watershed planning. The evolution to Watershed Planning and Advisory Councils planning could be one of the most powerful components of the ***Water for Life*** strategy.
- The Alberta Water Council is past the organizational stage and has started initial project work in the prioritized issues of water research, conservation and wetlands policy development.

Future Success Factors:

- The Alberta Water Council must take a strategic role in providing input to the government on provincial issues. Projects must be manageable and directed towards high priority areas.
- Stakeholder groups should recognize the potential to align their common interests and use common resources. The sharing of experience and expertise can make an important contribution to both watershed and provincial planning. Strong linkages should be established between the Alberta Water Council, Watershed Planning and Advisory Councils and Watershed Stewardship Groups. Input should be sought at all three levels from industry groups, regulators and advocacy groups.
- Input should be sought by the government, on a regular basis, from all three groups with respect to the ***Water for Life*** planning and progress.

Water Conservation

Commitment:

Albertans will be leaders in conservation by using water efficiently and effectively.

Relationship Factors:

- Limits on the supply of water available in many watersheds is placing pressure on the future capacity to maintain aquatic environments and support economic activity and population growth. Demand will exceed supply in some watersheds. Conservation, storage and productive use are all fundamental components underlying the strategic outcomes.
- Research and data are required to understand current use and practices, the economic value of water in the Province, and the experience and best practices in other jurisdictions.
- The partnerships concept emphasizes that wise use of water is a shared responsibility. All stakeholders should be involved in solutions.

Short Term Objective:

- Albertans should appreciate water as a scarce resource and understand its value to the economy and quality of life. Programs will be completed to increase understanding and support remedies.

Long Term Objective:

- Comprehensive best management practices will be in place and lead to an overall improvement in the efficiency and productivity of water use by 30 per cent by the year 2015.

Review to Date:

- Good progress in establishing systems to gather baseline information on current water use.

Overall Success Factors

- Preliminary scoping of projects for public education, assessment of economic value of water and economic instruments. Despite a targeted completion for all these actions by the end of 2007, this timely commitment is unlikely. These action plans and timelines should be redefined.
- The Alberta Water Council has struck a Water Efficiency and Productivity Working Group to define recommendations for a Provincial Water Conservation Plan. This will include validation of the 30 per cent target; an assessment of the value of water and of the role of economic instruments.
- Encouraged by consensual approach, as defined by a task force looking at oilfield injection practices.
- Overall, this key direction has not yet received the comprehensive focus required for effective impact on the outcomes.

Future Success Factors:

- Focus and place high priority on a comprehensive Provincial Water Conservation Plan. There is a need for the Plan to recognize a distinction and balance between conservation (planned protection and reduced use of the resource) and efficiency/productivity (optimum use of the resource).
- Develop performance measures for efficiency and productivity in various sectors and track consumption in relation to population growth, economic growth, seasonality and the prospect of reduced supply. What gets measured, improves.
- Key on innovative solutions: technology and economic instruments.
- Emphasize storage and infrastructure efficiency. Supply enhancements should complement demand efficiencies as a means of meeting targets.

Planning and Implementation

- Planning and organization must evolve into specific strategic commitments and initiatives.
- The government is working on the definition of a range of performance indicators to track the effectiveness of their strategic planning. The Alberta Water Council will provide input to this initiative. This work should be pursued.
- Ensure success exceeds incremental progress.

Funding

- The strategy is creating a requirement for additional water management resources in the Province. Dedicated research, new facilities and technology, and increased regulation and public education programs will require additional sources of financial support. Funding should be allocated specifically to these strategic initiatives as they are identified.
- Overall, the ***Water for Life*** strategy, as a Government of Alberta policy initiative, requires a long-term funding commitment to ensure outcomes are achieved.

Collaboration

- Careful coordination and cooperation between Alberta Government departments.
- Multi-jurisdictional cooperation should also be sought at the federal, municipal and Aboriginal communities levels. There is a strong potential to share research, regulatory responsibilities and applied management practices.

Recommendations

Albertans should be aware that a strong organizational effort has been made in the past year to support the long-term implementation of ***Water for Life***. These efforts are soundly based on the strategic format of the strategy. There has been progress under all elements of the plan. We congratulate the Government of Alberta for their efforts in year one. Future success will evolve.

Members of the Council recommend, for the next year of the program, the government identify and pursue fundamental components under each of the strategic Directions. This will help ensure, in the midst of the many initiatives currently underway, that momentum will build over the short term.

The Directions are intended to drive achievement of the Outcomes. The focus areas suggested below are based on their potential to create a balanced and significant impact on the three Outcomes. We acknowledge that planning is already underway in each of these areas and will provide an effective base for the priorities we are suggesting.

- Knowledge and Research: The availability of current and comprehensive knowledge bases in key areas will support effective decision-making as the ***Water for Life*** strategy evolves into specific initiatives and policies. Members of the Council suggest the Provincial Water Research Strategy developed under the leadership of the Alberta Science and Research Authority identify and define such priorities for the coming year and the coordination of the resources and funding required to complete them. Examples may include:
  - Groundwater mapping of Alberta
  - Provincial wetlands inventory
  - Province-wide analysis of water use information
  - An assessment of instream flow needs across the province

  In addition, we see an immediate value in defining and implementing a public education and awareness strategy to increase the understanding of Albertans in regard to water management principles and issues.
- Partnerships: Define process and timelines for establishing Watershed Planning and Advisory Councils in all applicable watersheds. Watershed planning is a cornerstone of ***Water for Life***. Although there are regional differences in water management issues, a consistent planning structure across Alberta is an important first step. The evolution to the leadership of Watershed Planning and Advisory Councils in planning is a critical element of effective planning.
- Water Conservation: The objectives of this direction need to be clarified. The outline of a conservation plan for the province should be defined as a priority. It should address definitions and objectives for conservation of the resource; productivity in the use of water by various sectors; and efficiency in the management of available supplies. The potential contribution of each factor to the future availability of water should be clearly understood.